Geography (GEOG)

geography.uconn.edu

5000. Research Design

Three credits.

A survey of research methods in geography. Topics include spatial sampling, hypothesis construction and testing and geographic modelling.

5010. Geography Proseminar

One credit. Prerequisite: Open only to Geography graduate students.

Presentation by geography faculty of current research topics.

5100. Location Analysis

Three credits.

Issues and approaches in location analysis. Topics include location theory and models; representation issues; use of geographic information systems (GIS) for data preparation, analysis and display; evaluation of service areas; land use allocation; accessibility and locational conflict; and implications for planning and public policy.

5110. Regional Development and Policy

Three credits. Prerequisite: Instructor consent.

A study of theory and practice in regional development and planning. Emphasis on evaluation of regional problems and public policies designed to resolve them, with a primary focus on the United States.

5130. GIS in Transportation

Three credits. Prerequisite: Open only to Geography graduate students.

Discussion of the uses of Geographic Information Systems (GIS) for transportation rate establishment, for visualizing the results of transportation models for predicting flows, for exploring the impact of transportation on the location of economic activities, and for the planning of transportation facilities in cities.

5140. Geographical Analysis of Social Issues

Three credits. May be repeated for a maximum of six credits.

Focus on geographical perspectives toward research on selected social issues, with an emphasis on methods of behavioral analysis and relevant social geographical concepts such as social space, activity spaces and time-space budgets, and diffusion.

5150. Visualization in Geographic Information Systems

Three credits.

Design of spatial data displays and computer generated maps.

5220. Geography of Sustainable Development

Three credits.

Conceptualizing international development; understanding theories, strategies and ideologies of development; and use of case studies to understand development in practice. Emphasis placed on the concept of sustainable development and sustainability, grassroots-driven approaches to development, the role of women, and geographic explanations as to how and why uneven development has occurred.

5230. Advanced GIS for Remote Sensing for Geoscience Applications

(Also offered as GSCI 5230.) Three credits. Not open to students who have passed GEOG 4520.

Research methods for using Geographic Information Systems, remote sensing, and image interpretation to investigate problems in geoscience. Includes research techniques for data acquisition, processing and analysis of Digital Elevation Models and satellite imagery. Geologic materials, processes, landforms and landscapes.

5290. Advanced Urban Geography

Three credits. May be repeated for a maximum of six credits.

Analysis of social and economic patterns within urban areas, with emphasis on individualized research. The implications for planning are stressed.

5310. Advanced Fluvial Geomorphology

Three credits. Not open for credit to students who have passed GEOG 3310.

Research methods for analyzing fluvial forms and processes. Theoretical discussion of factors controlling open-channel flow, sediment transport, channel morphology, adjustments of rivers to environmental changes and human impacts. River management and restoration strategies. Requires one weekend field trip.

5390. Advanced Physical Geography

Three credits. May be repeated for a total of six credits.

Problems involving the application of physical processes in our changing environment.

5500. Fundamentals of Geographic Information Science

Three credits.

An introduction to the theory and methods for representing, acquiring, storing, manipulating, displaying, and analyzing geographic features in relation to the surface of the earth.

5505. Remote Sensing of Marine Geography

Three credits.

Introduction to remote sensing applications in oceans and seas. Applications include image analysis of sea surface temperature, winds, altimetry, sea ice, chlorophyll, primary productivity, and bathymetry. Graduate section includes individualized projects.

5510. Application Issues in Geographic Information Systems

Three credits. Recommended preparation: GEOG 5500.

Operational and management issues in geographic information systems (GIS). Implementation of traditional planning and management theories and techniques in GIS. Topics include problems of data exchange standards, implementation of GIS in an institutional setting including benchmarking a GIS, applications of GIS in various fields, social impacts and legal aspects of GIS. Practical work includes analytical exercises using GIS culminating in an application project.

5512. Introduction to Spatial Data Science

Three credits. Prerequisite: GEOG 5500 or instructor consent.

Introduction to the fundamentals of spatial data science. Students will also learn how to apply a high-level programming language—R—for spatial data analysis, visualization, and modeling.

5515. Web GIS

Three credits. Prerequisite: Instructor consent.

Introduction to Internet GIS. The basics of system architecture, geospatial web services, mashups, key elements of mobile GIS solutions, the functionality of geoportals and web technologies, web mapping interoperability using universal data standards such as OGC (Open Geospatial Consortium) web services, and the current state of e-business and e-government web mapping interests.

5516. Fundamentals of Spatial Database Systems

Three credits. Not open for credit to students who have passed GEOG 4516.

The theories and principles behind Spatial Database Systems. Students will learn how to design and implement spatial databases.

5518. Mobile GIS

Three credits. Prerequisite: Instructor consent. Not open for credit to students who have passed GEOG 4518.

This course covers how to develop, test, and publish mobile GIS web and native apps across multiple mobile platforms (Android, iOS, etc.).

5519. Spatial Big Data Analytics

Three credits. Prerequisite: Instructor consent. Not open for credit to students who have passed GEOG 4519.

Covers the collection, analysis, and visualization of spatial big data to support better decision-making in geographic contexts.

5520. GIS Modeling of the Urban Environment

Three credits. Prerequisite: Instructor consent.

Survey of GIS methods and spatial analysis for studying spatial patterns of land use and human activity in an urban environment.

5530. GIS Applications in Health Research

Three credits.

Survey of GIS methods for health research, health care policy making, and planning.

5560. GIS and Environmental Geography

Three credits. Recommended preparation: GEOG 5500.

Applicability of Geographic Information Systems to solve environmental problems. Case studies address environmental assessment and monitoring, analysis and modeling, planning and management.

5600. Spatial Data Analysis

Three credits. Prerequisite: Instructor consent.

Univariate statistics focused on the use of spatial statistics, including geostatistics in geographical research. Problems specific to spatial data analysis are addressed.

5610. Spatial Statistics and Modeling

Three credits. Prerequisite: GEOG 5600.

Advanced study in the methods and practice of multidimensional statistics and spatial modeling.

5612. Spatial Econometrics

(Also offered as ECON 5612.) Three credits. Prerequisite: GEOG 3500Q or equivalent; or instructor consent.

Concepts, theories, methods, techniques, and programming for spatial econometrics. An introduction to estimating and interpreting econometric models for analysis of socioeconomic relationships and human-environment interactions.

5620. Computer Applications in Spatial Analysis

Three credits.

Advanced seminar in the design of Geographic Information Systems software for solving problems in spatial analysis.

5700. Contemporary Europe: A Geography

Three credits.

An introduction to the peoples, countries, and landscapes of Europe (excluding the republics of the former U.S.S.R.). Emphasis on the economic, political, and social forces both maintaining national identities and shaping a united Europe.

5810. Special Problems in Geography

Variable (1-6) credits. Prerequisite: Instructor consent. May be repeated for credit.

5890. Internship in Geography

Variable (1-6) credits. Prerequisite: Instructor consent. May be repeated for a maximum of 12 credits.

A fieldwork internship program under the direction and supervision of the geography staff. Students will be placed in agencies or industries where their academic training will be applied. One 8-hour work day per week (or its equivalent) for the host agency during the course of the semester will be necessary for three academic credits. A written report will be required.

6000. Themes in Geographic Thought

Three credits.

Examination of the historical development of geography since the early nineteenth century. Emphasis on the last century of intellectual developments that have led to the emergence of contemporary geography as a research discipline.

6800. Practicum in College Teaching in Geography

One credit. Prerequisite: Open only to Geography graduate students; instructor consent required. May be repeated for a maximum of three credits. Students taking this course will be assigned a final grade of S (satisfactory) or U (unsatisfactory).

Guided development of college-level instruction. Drafting of course objectives, selection of texts, development of course and lecture outlines, selection of grading mechanisms, and incorporating feedback for improvement of instruction.

6810. Advanced Topics in Spatial Analysis

Three credits. Prerequisite: Instructor consent. May be repeated for a maximum of six credits.

6820. Advanced Topics in Regional Analysis

Three credits. Prerequisite: Instructor consent. May be repeated for a maximum of six credits.

6830. Advanced Topics in Population Geography

Three credits. Prerequisite: Instructor consent. May be repeated for a maximum of six credits.

6840. Advanced Topics in Urban Geography

Three credits. Prerequisite: Instructor consent. May be repeated for a maximum of six credits.

6850. Advanced Topics in Geography of Public Policy

Three credits. Prerequisite: Instructor consent. May be repeated for a maximum of six credits.

6860. Advanced Topics in Economic Geography

Three credits. Prerequisite: Instructor consent. May be repeated for a maximum of six credits.

6870. Advanced Topics in Physical Geography

Three credits. Prerequisite: Instructor consent. May be repeated for a maximum of six credits.

6880. Advanced Topics in Environmental Geography

Three credits. Prerequisite: Instructor consent. May be repeated for a maximum of six credits.